layer as a current feeding layer, for thereby filling copper in the interconnection groove defined in the surface of the semiconductor device.

Kindly add the following new claims:

13. A method of forming a copper interconnection on a semiconductor device, characterized by the steps of forming an auxiliary seed layer for reinforcing a copper seed layer in an interconnection groove defined in a surface of the semiconductor device using an electroless copper plating liquid containing dihydric copper ions, a complexing agent, and an organic alkali, and performing an electrolytic plating process using the seed layer including said auxiliary seed layer as a current feeding layer, for thereby filling copper in the interconnection groove defined in the surface of the semiconductor device.

14. A method of forming a copper interconnection according to claim 13, characterized by performing an electroless copper plating process at a plating rate of 50 nm/min. or less using said electroless copper plating liquid.

15. A method of forming a copper interconnection according to claim 13, characterized in that said electroless copper plating liquid contains polyoxyethylene alkylphenylether phosphoric acid and/or polyoxyethylene alkylphenylether, which has the structure indicated below, at a concentration ranging from 1 to 100 mg/L:

(polyoxyethylene alkylphenylether phosphoric acid)

$[R(C_6H_4)\,O\,(C_2H_4O)_n]_m - P(=O) - (OH)_{3-m}]$ m = 1 through 3

(polyoxyethylene alkylphenylether)

$R(C_6H_4)\,O\,(C_2H_4O)_nH$

16. A method of forming a copper interconnection according to claim 13, characterized in that said complexing agent comprises EDTA• 4H (ethylenediaminetetraacetic acid), said aldehyde

Cont. A3

acid comprises a glyoxylic acid, and said organic alkali comprises TMAH (tetramethylammonium hydroxide).

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17. A method of forming a copper interconnection according to claim 16, characterized in that said copper ions have a concentration ranging from 0.01 to 10.0 g/L, said EDTA• 4H has a concentration ranging from 0.5 to 100 g/L, said glyoxylic acid has a concentration ranging from 1 through 50 g/L, and the electroless copper plating liquid has a pH adjusted to a range from 10 to 14 by said TMAH.

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